

# ENGINEERING DEPARTMENT

## Engineering Department overview

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The work performed by the Engineering Department includes utility reviews in conjunction with land use permits, right-of-way permits, stormwater drainage and soil erosion permits, historical information, traffic counting and studies and design, construction engineering and contract administration work related to various service areas. The Department maintains historic records for City utility locations including sanitary sewer, watermain and storm sewer. The Department

participates and works in several areas and is involved with projects identified in the Public Improvement Plan. These activities are listed below.

- Ordinance Compliance
- Economic Development Projects
- Regional Bridge Council and Bridge Scour Committee (MDOT)
- Regional Transportation Planning and Traffic Assessment (TTCI)
- Sidewalk Improvements

- Bike Paths and Trails
- Street Reconstruction and Resurfacing
- Storm Water Quality Sewer and Water Systems
- Budgeted Capital Improvements
- Bridge and Dam Inspections
- City Infrastructure Projects
- Grand Traverse Commons Infrastructure
- Bayfront Improvements

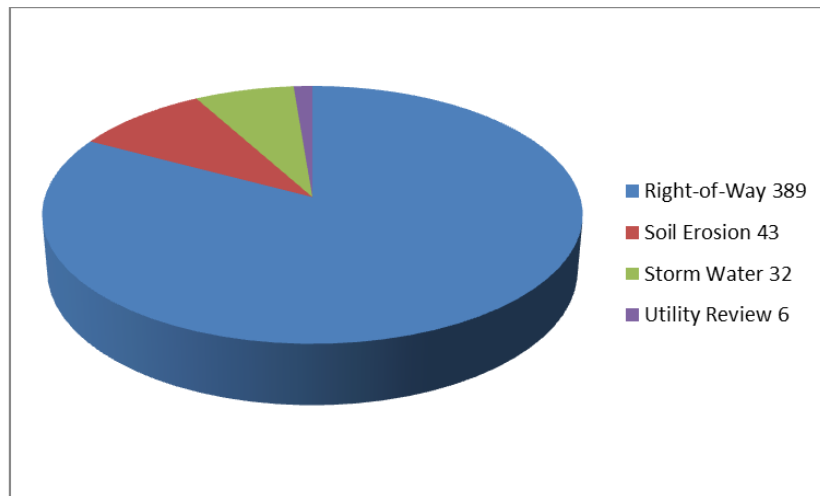
## Involvement in Projects

### 2016 Staff Accolades:

Staff completed nearly 200 hours in professional development training in such topics as traffic calming, bike and pedestrian safety, pavement management and design, bridge inspection and load rating, graphics presentations, soil erosion and sedimentation control, hydraulic and hydrologic analysis of stormwater systems and water quality.

- Clinch Park
- Hickory Hills
- Sidewalk Repair
- Sidewalk Infill
- Open Space
- Traffic Signals
- Division Street
- Boardman Lake Ave RR Wye Relocation
- West Boardman Lake Trail
- Clancy Park
- Hannah Park
- Rose and Boyd Park
- Union Dam Selective Fish Passage
- Union Dam monitoring
- Boardman River Walk
- Lot D & Boat Launch
- Senior Center Building Renovation
- Carnegie Building Improvements
- Parking Lots (B,T,K & P)
- Parking Violations Bureau Build Out
- West Front Parking Deck
- Farmers Market
- Park Street Streetscapes
- Park Street Entrance
- Cass & Lake Streetscapes
- E Front Mid-Block X Walk
- E Front Streetscapes
- Annual Corridor Project Implementation
- Ally SID
- Bryan Crough Memorial
- West Front St Bridge Replacement
- 8th Street Bridge Rehab
- S Cass St Bridge Rehab
- Park Street Bridge Rehab
- Murchie Bridge Pedestrian Railing Repair/Replace
- Pavement Preservation
- M-22 Sewage Flow Meter
- W Front St (Div-Elmwood)
- Gravel Streets
- Annual Street Projects
- 8th Street Reconstruction
- 8th Street Alley
- Traffic Calming
- Stormwater SMP
- Stormwater AMP
- Sanitary Sewer AMP
- Annual Sewer Projects
- WWTP Projects
- Garland Area Storm Water Treatment
- Barlow Reservoir
- Coagulant Bulk Storage Tank Replacement
- Huron Hills Booster Station
- Lead Gooseneck Replacement
- Annual Water Projects

## 2016 Engineering Permits by the numbers



### Sidewalk Projects



#### 2016 Gap and Infill locations:

- Grandview Parkway
- W Front Street
- Hastings Street
- Lake Ave
- Cass Street

#### 2016 Sidewalk Repair locations:

- E 10<sup>th</sup> Street
- N Cedar Street

#### Safe Routes to Schools (SR2S):

Helped initiate the process to participate in the program to encourage walking and bicycling to school for 10 area schools

### Before



### After



### Pine Street Pedestrian Bridge

The Pine Street Pedestrian Bridge connects West Front Street to the Warehouse District by spanning the Boardman River. The nearly \$1,063,000 project includes the pedestrian bridge, plaza areas, landscaping, lighting and electrical undergrounding.

The pedestrian bridge has been planned since at least

1997 when it was included in the TIF-97 (Tax Increment Financing) development plan and is an outgrowth of the 1994 City Plan.

The project serves several purposes:

1. Enhanced pedestrian connectivity joining the Warehouse District with Front Street

2. Help maximize the usefulness of the future planned parking structure on West Front Street.

3. Carry the electrical lines for TCLP and complete the overhead to underground conversion for this area.



## Garland Street

The new street, designed by Fleis and VandenBrink, located in the Warehouse District, connects Garland Street from Hall Street to Union Street. The nearly \$1,880,000 project includes the stamped and colored concrete street, plaza areas, on-street parking, landscaping, lighting, underground utilities and street furniture.

Garland Street is Traverse City's first urban curb-less

shared street. Design principles that were agreed upon during the project's planning stage were implemented including:

- Provide effective mix of pedestrians, bicycles, autos and delivery vehicles
- Utilize warehouse character in design
- Slow vehicular speeds
- Effective short and long term maintenance



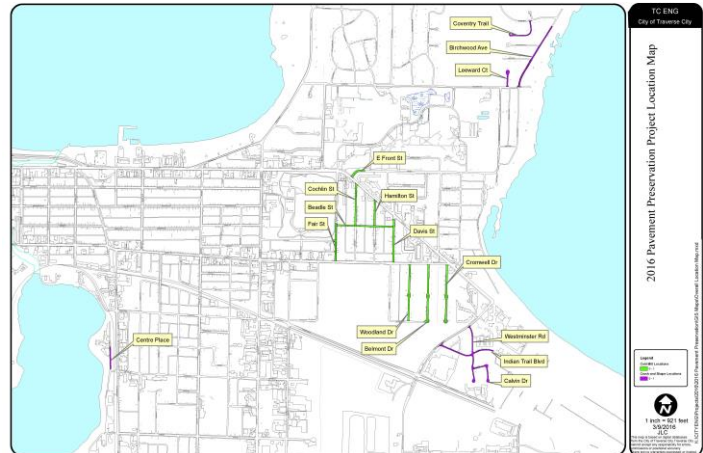
## Pavement Preservation Project

The Engineering and Street Departments evaluated the cost effectiveness of different Capital Preventative Maintenance (CPM) techniques to improve pavement conditions.

Two CPM techniques, crush, shape and resurface and cold milling and resurfacing were selected for the 2016 Pavement Preservation Project for the 16 locations

shown on the map to the right.

Funding for the Pavement Preservation project was from the Road Commission funds provided from the 2013 voter approved Street, Roads, Highways, Bridges Repair and Improvement Millage.



## Paving and Resurfacing Projects

Over \$1 million in Paving and Resurfacing Projects were implemented in 2016 in 3 locations:

1. **State Street between Boardman Avenue and Railroad Avenue-** street reconstruction, watermain replacement, sanitary sewer replacement, curb and gutter replacement,

sidewalk replacement and related restoration work.

2. **Franklin Street between E. Front Street and Washington Street-** street reconstruction, sanitary sewer replacement, curb and gutter replacement, sidewalk replacement and

related restoration work.

3. **W. Ninth Street between Union Street and Pine Street-** street reconstruction, watermain replacement, curb and gutter replacement, sidewalk replacement and related restoration work.





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## Bridges

In 2016, design and engineering for four bridges was underway.

The 4 bridges are:

1. West Front Street Bridge Replacement
2. South Cass Street Bridge Repair
3. Park Street Bridge Repair

### 4. Eighth Street Bridge Repair

The majority of funding for the bridge projects comes from the MDOT Local Bridge Program and requires a 5% local match and for the City to perform engineering services.



## SAW Grant Stormwater Management Plan

City Engineering's focus as part of the City's SAW grant is on the desired Level of Service for the stormwater system, review of the City's Stormwater Ordinance, Chapter 1068 of our Code of Ordinances and the corresponding guidelines, and on Water Quality Objectives.


**Level of Service-** The City conducted a flooding survey in 2015 and with more than 1050 responses flooding concerns were noted on 25% of the respondents.

### Stormwater Ordinance Chapter 1068 and Guidelines -

The Stormwater Ordinance and Guidelines originated in 1991 and the SAW Grant offers the opportunity to review them and consider revisions and updates.

### Water Quality Objectives-

The purpose and objectives of our stormwater ordinance should be reviewed and related to our overall water quality goals.



**CITY of TRAVERSE CITY**


**Stormwater Management & Water Quality Stakeholders Open House**

When: December 13, 2016 from 4:00 – 6:30 pm  
Where: Traverse City's City Hall – Second Floor Training Room


Local stakeholders are invited to the first in a series of three public meetings to provide input to help shape the future of stormwater management and water quality protection in the City of Traverse City. This first meeting will be an Open House with stations where attendees will learn about the impacts of stormwater on our local waters as well as some of the things the City and the Watershed Center are doing to protect water quality and public health. Additionally, an interactive station will allow participants to identify problem areas and their personal vision for water quality protection in the City.

Key themes will include:


- Is water quality important to you?
- What we do now for water quality.
- What is the SAW Grant?
- What's next?



Runoff from Roof



Runoff from Street



Stormwater runoff into streams, rivers and lakes

